

### **Claim Amendments**

Independent claims 1 and 11 have been cancelled and replaced with independent claims 24 and 25, respectively. Claims 3-7, 9-10, 13-15, and 19-23 have been amended and claim 12 has been cancelled. Applicant submits that no new matter has been added.

### **REMARKS**

This is in response to the Official Action dated April 3, 2006. Applicant respectfully requests reconsideration and allowance of the present application in view of the following remarks. Applicant also appreciates the Examiner granting a telephone interview with Applicant's representative, Paul J. Kroon, Jr., on June 28, 2006.

During said telephone interview, the Examiner stated numerous times that the Office's position is that the present invention was nothing more than connecting a positive and a negative power supply, and that the Examiner need only find a reference that discloses this feature and combine that with FIGS. 2 and 4 of Applicant's admitted prior art. The Examiner also stated that no patentable distinction is being made between an underwater junction and a landmass. Applicant respectfully traverses these conclusions for at least the following reasons.

Claims 3-10, 13-15 and 20-25 are now pending; claims 1, 3-15 and 20-23 have been rejected. Claims 3-10 and 20-21 now depend upon newly added independent claim 24 and claims 13-15 and 22-23 depend upon newly added independent claim 25. Accordingly, the rejections of the pending claims are now moot; however, Applicant will focus on newly added independent claims 24 and 25.

The previously pending claims have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the prior art disclosed by Applicant as FIGS. 2 and 4 (hereinafter referred to as "Reference 1") in view of Kawano (US Patent Number 5,526,157, hereinafter referred to as "Kawano"), under 35 U.S.C. § 103(a) as being unpatentable over Reference 1 in view of Tomosugi (JP 57099042, hereinafter referred to as "Tomosugi"), and under 35 U.S.C. § 103(a) as being unpatentable over Reference 1 in view of Inoue (U.S. Patent No. 5,214,312, hereinafter referred to as "Inoue") in further view of Tomosugi. Applicant respectfully traverses these rejections.

Newly added independent claim 24 recites, in relevant part, a system for providing communications between communication devices located on different landmasses, comprising:

a third electrical power connector, located on said third landmass, permanently connecting said first and said second electrical power conductors such that power is supplied to said first and said second electrical power conductors exclusively by said first and said second pieces of power feed equipment. (*emphasis Added.*)

Newly added independent claim 25 recites, in relevant part, a system for providing communications between communication devices located on different landmasses, comprising:

a third electrical power connector, located on said third landmass, permanently connecting said first and said second electrical power conductors such that power is supplied to said first and said second electrical power conductors exclusively by said first and said second power pieces of feed equipment and said first and said second repeaters are powered exclusively by said first and said second pieces of power feed equipment. (*emphasis Added.*)

Applicant notes that Reference 1 is the primary reference relied upon by the Examiner for all of the pending rejections. Reference 1 illustrates the particular problem solved by the claimed invention. In particular, Reference 1 clearly teaches the well known communication network arrangement wherein power is supplied to first and second undersea communication segments 401, 401 using power feed equipment (PFE) 403, 404, 405, and 406 located on landmasses A, B, and C. In contrast, independent claims 24 and 25 recite, in relevant part, “a third electrical power connector, located on said third landmass, permanently connecting said first and said second electrical power conductors such that power is supplied to said first and said second electrical power conductors exclusively by said first and said second pieces of power feed equipment.” The Examiner appears to acknowledge that Reference 1 does not disclose or suggest these limitations. *See, for example, pages 3-4, 11, and 18-19 of the Office Action dated April 3, 2006.*

Applicant respectfully submits, however, that the combination of Kawano, Tomosugi, or Inoue does not disclose or suggest these missing limitations. As will be explained in greater detail hereinbelow, *even if* these references were combined with Reference 1 as suggested by the Examiner, every combination of these references would include the PFEs located on each of the three landmass as shown in Reference 1 that are electrically connected to the communication system since *none* of these references disclose eliminating the PFE located on the third landmass

as claimed in the present invention. Applicant reminds the Examiner that the traditional belief in the art has been that:

[e]ach segment [102a and 102b in the communication network shown in FIG. 1b] is installed having the necessary equipment (PFEs, branching units, repeaters, etc.) to sustain communications between two (or more, if branching units are used) cable stations, such as cable stations 101a and 101b. This results in power feed configurations such as the one shown in Fig. 4. In the Fig. 4 system, a first undersea communication segment 401 is located between landmasses A and B, and powered by PFEs 403 and 404, while a second segment 402 is located between landmasses B and C, and is powered by PFEs 405 and 406. *See, Description of the Related Art, page 3, line 21-page 4, line 5 of the present application.*

Therefore, it is incumbent upon the Examiner to submit evidence/proof that can overcome the evidence or record submitted by the Applicant.

Regarding the three supplementary references cited by the Examiner, Kawano discloses a submarine cable system for simplifying expansion and maintenance. *See Col. 1, lines 34-38 of Kawano.* The Examiner specifically references FIG. 11 of Kawano which is described in column 6, lines 14-49 of Kawano. In particular, FIG. 11 specifically deals with the problem of how to avoid having to turn off the power supply to power supply line 81 of the existing cable 11 connecting two landmasses (continents A and B) when connecting a new cable 71 to the branching joint box 51 of the existing cable line 11 in order to provide communication services to a third landmass (island C). *See column 6, lines 14-28 and column 2, lines 16-39 of Kawano.* To overcome this problem, Kawano discloses “no power supply line is built in along the route of the branching joint box 51, the redundant optical cable 43 and the end box 61. However, it is sufficient to mount a submarine grounding terminal 83 at a part of the end box 61.” *See column 6, lines 37-41 of Kawano.*

It is important to note that Kawano discloses connecting communication lines to three separate landmasses as recited in the present invention, i.e., first and second terminal stations 21, 22 are on continents A and B and are connected using existing cable 11 and island C is connected using new cable 71. However, the end of new cable 71 (which terminates on a third landmass, island C), inherently includes a PFE in order to supply current along power supply line 82 since Kawano specifically discloses that the new cable 71 is not connected to the power supply line 81 of existing cable 11. Accordingly, when read as a whole, Kawano specifically

teaches that each landmass (A, B, and C) each have their own PFE and that the communication network therefore features three separate PFE. Therefore, Kawano teaches a substantially similar communication network as described in Reference 1, and therefore teaches away from the present invention. Seeing as the Examiner acknowledges that Reference 1 does not disclose or suggest all of the features of the present invention, this missing features MUST be disclosed in Kawano in order for the current rejection to be proper. However, Kawano discloses a similar arrangement (i.e., the use of three PFE on three different landmasses) and therefore cannot properly be said to have taught or suggested the modification suggested by the Examiner without the use of hindsight.

Regarding the junction box 51 disclosed by Kawano, Applicant submits that this is NOT the same thing as the third landmass claimed in independent claims 24 and 25. At the outset, junction box 51 is clearly submerged in the water while the third landmass of the present invention is not. Merriam-Webster Online dictionary defines landmass as “a large area of land” whereas as junction box is neither large nor an area of land. Applicant respectfully requests that if it is the Examiner’s position that there is no patentable distinction between junction box 51 and a landmass, that the Examiner makes this clear in the record for purposes of appeal.

Moreover, branching junction box 51 is NOT a power connector as recited in independent claims 24 and 25. Branching junction box 51 *only* “cuts the sub optic fiber pair 32 and separates the same into a first branching optical fiber pair 41 and a second branching optical fiber pair 42” as indicated by the dots. *See FIGS. 5-7 and column 2, line 66-column 3, line 2 of Kawano.* As shown in FIG. 11, the power supply line 81 of existing cable 11 passes completely through junction box 51 *without* any connections. Kawano specifically discloses that the power supply line 81 of existing cable line 11 passes through junction box 51 *without* being connected to end box 61 and therefore cannot be properly said to teach connecting two power supply lines. *See column 6, lines 30-49 of Kawano.*

Independent claim 25 recites, in relevant part, first and second cables that carry data signals between communication devices of the first, second, and third landmasses which are electrically connected to the first and second repeaters. These repeaters are powered exclusively by the first and second pieces of power feed equipment located on the first and second landmasses. In contrast, any repeaters connected to the new cable 71 would necessarily have to

be powered by the PFE located on island C whereas any repeaters connected to the existing cable 11 are powered by the PFE located on continents A and B since new cable 771 is not connected to the power supply line 81 of existing cable 11.

Accordingly, Applicant submits that Kawano does not disclose or suggest the limitations acknowledged by the Examiner to be missing from Reference 1. For at least these reasons, Applicant respectfully submits that the pending claims are patentable over the combination of Reference 1 and Kawano and requests withdrawal of the rejection.

Regarding Tomosugi, Applicant submits that Tomosugi is not analogous art and therefore the rejection is improper. “To rely on a reference under 35 U.S.C. § 103, the reference must be analogous prior art.” See *MPEP 2141.01(a)*. “In order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be [1] in the field of applicant’s endeavor or, if not, [2] then be reasonably pertinent to the particular problem with which the inventor was concerned.” *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed Cir 1992). (*emphasis and numerals added*.)

The field of Applicant’s endeavor is “the field of communications in which signals are carried over extended distances. In particular, the present invention relates to undersea communication networks, and the equipment for forming such networks.” See *page 1, Technical Field of the Invention of the present application*. In contrast, Tomosugi relates to a submarine relay system for a power supply circuit. See *Abstract, Tomosugi*. More specifically, Tomosugi does not relate to communication systems, and therefore does not satisfy the first criteria.

Regarding the second criteria, the particular problem with which the Applicant was concerned is to provide “a system and method that can reduce the cost of installing and operating communication systems having multiple segments.” See *page 4, Summary of the Invention of the present application*. In contrast, the particular problem with which Tomosugi is concerned is to “enable power supply to nonfailed section[s]” in a power supply circuit. See *Abstract, Tomosugi*. Accordingly, Tomosugi is not related to the particular problem with which the Applicant was concerned, and therefore does not satisfy the second criteria. Consequently, Tomosugi is not analogous prior art and therefore cannot be relied upon.

Nevertheless, Tomosugi does not provide any teaching or suggestion to modify Reference 1 to eliminate the PFE on the third landmass from being connected to the

communication system. The heart of the invention of Tomosugi involves switches 5. Switches 5 are connected to the power supply and are closed in the event of a failure along the transmission line 6. When closed, the switch 5 connects the transmission line 6 to ground 4. Therefore, switch 5 is an essential element or feature of Tomosugi. Removing the switch as suggested by the Examiner would render Tomosugi unsatisfactory for its intended purpose and change the principle of operation in contradiction to MPEP § 2143.01. Even if one skilled in the art were to modify Reference 1 as suggested by the Examiner, the resulting combination would necessarily involve switch 5. Specifically, the combination of Reference 1 and Tomosugi would, *at best*, include the PFEs located on the three landmasses and switch 5 connecting the power supply lines. For at least these reasons, the combination of Reference 1 and Tomosugi would not disclose or suggest “a third electrical power connector, located on said third landmass, permanently connecting said first and said second electrical power conductors such that power is supplied to said first and said second electrical power conductors exclusively by said first and said second power pieces of feed equipment” as recited in independent claims 24 and 25.

Accordingly, Applicant submits that Tomosugi does not disclose or suggest the limitations acknowledged by the Examiner to be missing from Reference 1. For at least these reasons, Applicant respectfully submits that the pending claims are patentable over the combination of Reference 1 and Tomosugi and requests withdrawal of the rejection.

Regarding Inoue, the Examiner acknowledges that Inoue does not disclose or suggest all of the limitation of the present invention. *See, for example, page 19 of the Office Action dated April 3, 2006.* In fact, Inoue’s teaching of a submarine configuration for managing connections between three different power feed equipment teaches away from the claimed invention which requires that “a third electrical power connector, located on said third landmass, permanently connecting said first and said second electrical power conductors such that power is supplied to said first and said second electrical power conductors exclusively by said first and said second power pieces of feed equipment.”

Accordingly, it is respectfully submitted that the newly added independent claims 24 and 25 are patentable over the references cited. In light of the foregoing remarks, it is believed that all of the presently pending claims are in a condition for allowance. Allowance of the application is respectfully requested. In the event the Examiner deems personal contact desirable

in disposition of this application, the Examiner is respectfully requested to call the undersigned attorney at (603) 668-6560.

No fees are believed to be due. In the event there are any fee deficiencies, please charge them (or credit any overpayment) to our Deposit Account No. 50-2121.

Respectfully submitted,

/Donald J. Perreault/

Donald J. Perreault, Attorney For Applicants  
Registration No. 40,126  
GROSSMAN, TUCKER, PERREAULT  
& PFLEGER, PLLC  
55 South Commercial Street  
Manchester, NH 03101  
Ph: 603-668-6560  
Fx: 603-668-2970